

### Proposed Claim Amendments

Claim 1 (Currently amended): A method of separating a compound of interest from a mixture, the method comprising the steps of:

(a) determining a static correlation function between retention time on an analytical HPLC column under a first set of conditions and retention time on a preparative scale HPLC column under a second set of conditions;

~~(a)~~(b) providing a mixture containing a compound of interest, the compound of interest having an expected mass;

~~(b)~~(c) subjecting a portion of the mixture to a separation using ~~an~~ the analytical HPLC column under the first set of conditions to produce an eluate stream;

~~(c)~~(d) analyzing the eluate stream using a mass spectrometer to determine a retention time of the compound of interest on the analytical HPLC column;

~~(d)~~(e) predicting a retention time of the compound of interest ~~from a~~ on the preparative scale HPLC column using ~~a predetermined~~ the static correlation function ~~between retention time on the analytical HPLC column and retention time on the preparative scale HPLC column~~ along with the determined retention time of the compound on the analytical HPLC column;

~~(e)~~(f) selecting a window of time around the predicted retention time within which the compound is expected to elute;

~~(f)~~(g) subjecting all or a portion of the remaining mixture to a separation using a preparative scale HPLC system comprising the preparative scale HPLC column, an HPLC compatible detector, and a fraction collector, the separation carried out under the second set of conditions; and

~~(g)~~(h) collecting at least a portion of the compound of interest using the fraction collector, the fraction collector being activated upon detection of a peak by the HPLC compatible detector within the selected window of time.